

Publications, Reports and Presentations by Ben Gawne as Director of MDFRC

Published Papers

- Gawne, B.** and Scholz, O. (2006). Synthesis of a new conceptual model to facilitate management of ephemeral deflation basin lakes. *Lakes & Reservoirs: Research and Management* 11(3): 177-188.
- Scholz, O., **Gawne, B.**, Ebner, B. and Ellis, I. (2002). The effects of drying and re-flooding on nutrient availability in ephemeral deflation basin lakes in western New South Wales, Australia. *River Research and Applications* 18(2): 185–196.
- Gawne, B.**, Merrick, C., Williams, D.G., Rees, G., Oliver, R., Bowen, T., Treadwell, S., Beattie, G., Ellis, I., Frankenberg, J. and Lorenz, Z. (in press). Patterns of primary and heterotrophic productivity in an arid lowland river. Submitted to *River Research and Applications*.
- Ebner, B., Scholz, O. and **Gawne, B.** (in review). Low flow spawned Golden Perch in the Menindee Lakes of far-west New South Wales. Submitted *Regulated Rivers*.
- Gawne, B.**, Cook, R., Gigney, H., Mitchell, A., Hawking, J., Nielsen, D. and Watson, G. (in prep). Ecological response to manipulations of the hydrology in slackwater and flow patches on the Broken River.
- Gawne, B.**, Gigney, H., Nielsen, D. and Hawking, J. (in prep). Flow variability and trophic linkages in three Australian Lowland Rivers.
- Whiterod, N.R., **Gawne, B.** and Gigney, H. (in prep). Flow mediated variability in the diets of small-bodied Murray Darling fish species.

Technical Reports

- Gigney, H., Petrie, R., **Gawne, B.**, Nielsen, D. and Howitt, J. (2006). The Exchange of Material between the Murray River Channel and Barmah-Millewa Forest during the 2005/2006 Floodplain Watering. Report prepared for the Murray-Darling Basin Commission and the Goulburn Broken Catchment Management Authority, July, 42pp.
- Hawking, J., Gigney, H., **Gawne, B.** and Smith, L. (2006). Murray Irrigation Area Aquatic Ecosystem Monitoring Project: Protocols. Report prepared for Murray Irrigation Limited, May, 46pp and Appendices.
- Zukowski, S. and **Gawne, B.** (2006). Potential Effects of Willow (*Salix* spp.) Removal on Freshwater Ecosystem Dynamics: A Literature Review. Report prepared for the North East Catchment Management Authority. MDFRC Technical Report MDFRC Technical Report 6/2006, Mildura, June, 66pp.
- Gawne, B.** and Gigney, H. (2005). Linking Sediment Dynamics, Riparian Vegetation and Aquatic Ecology in the Ovens River ~ Part 2 – Impact of Sediment Movement on the Aquatic Ecology of the Ovens River. Report prepared for North East Catchment Management Authority, Wodonga, November, 18pp.
- Gawne, B.**, Gigney, H. and Cook, R. (2005). Trial Monitoring Program for a River Restoration Project: Ovens De-willowing. Report prepared for North East Catchment Management Authority, June, 13pp.

- Gawne, B.**, Gigney, H., De Rose, R., Barrett, D., Marks, A., Caitcheon, G., Chen, Y., Simon, D., Lymburner, L., Douglas, G. and Palmer, M. (2005). Executive Summary - Linking Sediment Dynamics, Riparian Vegetation and Aquatic Ecology in the Ovens River. Report prepared for North East Catchment Management Authority, Wodonga, December, 2pp.
- Gawne, B.**, Gigney, H., Whiterod, N. and Cook, R. (2005). A snapshot of the effects of the 2003 drought on the Murray and Ovens Rivers. Report prepared for the Murray-Darling Basin Commission, January, 33pp.
- Gawne, B.**, Cook, R., Gigney, H., Hawking, J., Mitchell, A., Nielsen, D. and Watson, G. (2005). Successional processes in lowland river slackwaters. CRC for Freshwater Ecology Project A.240 Final Report, August, 42pp.
- Richardson, A., Baldwin, D. and **Gawne, B.** (2005). Recommendations for Monitoring Program for Tuppal and Bullatale Creeks. Report prepared for the Department of Infrastructure, Planning and Natural Resources, Deniliquin, February, 64pp.
- Williams, J., Mitchell, A. and **Gawne, B.** (2005). Phase 1 - A Review of Historic Monitoring (river health and water quality) and Research within the Broken River System. Report prepared for Goulburn Broken Catchment Management Authority, December, 120pp.
- Gawne, B.**, Cook, R., Gigney, H., Mitchell, A., Hawking, J., Nielsen, D. and Watson, G. (2004). Ecological response to manipulations of the hydrology in slackwater and flow patches on the Broken River. Report to CRC for Freshwater Ecology.
- Gawne, B.**, and McCasker, N. (2004). Ameliorating Water Quality in Mildura and Wentworth Weir Pools. Report prepared for the Murray-Darling Basin Commission, June, 45pp.
- McCarthy, B., Ellis, I. and **Gawne, B.** (2004). Drawdown of the Mildura Weir Pool 2001, 2002 & 2003: Water Quality Responses. Murray-Darling Freshwater Research Centre, Lower Basin Laboratory, Mildura. Final Report Project R2131 to the Murray-Darling Basin Commission, August, 52pp.
- McCarthy, B., Ellis, I. and **Gawne, B.** (2003). Drawdown of the Mildura Weir Pool: 2001, 2002 & 2003: water quality responses. Report 8/2003, Mildura.
- McCarthy, B., **Gawne, B.** and Meredith, S. (2004). Biofilm of the Mallee Tract. Murray-Darling Freshwater Research Centre, Mildura. Report to the Murray-Darling Basin Commission, Canberra, 15pp.
- McCarthy, B., **Gawne, B.** and Meredith, S. (2004). Research Report 1: Hydrology, Hydraulics and Physical Effects of Weirs in the Mallee Tract. Murray-Darling Freshwater Research Centre, Mildura. Report to the Murray-Darling Basin Commission, Canberra, August, 10pp.
- McCarthy, B., **Gawne, B.** and Meredith, S. (2004). Research Report 2: Water Physico-Chemistry and Sediments of the Mallee Tract. Murray-Darling Freshwater Research Centre, Mildura. Report to the Murray-Darling Basin Commission, Canberra, August, 27pp.
- McCarthy, B., **Gawne, B.** and Meredith, S. (2004). Research Report 3: Phytoplankton of the Mallee Tract. Murray-Darling Freshwater Research Centre, Mildura. Report to the Murray-Darling Basin Commission, Canberra, August, 17pp.
- McCarthy, B., **Gawne, B.** and Meredith, S. (2004). Research Report 4: Biofilm of the Mallee Tract. Murray-Darling Freshwater Research Centre, Mildura. Report to the Murray-Darling Basin Commission, Canberra, August, 20pp.

- McCarthy, B., **Gawne, B.** and Meredith, S. (2004). Macroinvertebrates of the Mallee Tract. Murray-Darling Freshwater Research Centre, Mildura. Report to the Murray-Darling Basin Commission, Canberra, August, 12pp.
- McCarthy, B., **Gawne, B.** and Meredith, S. (2004). The Euston Lakes. Murray-Darling Freshwater Research Centre, Mildura. Report to the Murray-Darling Basin Commission, Canberra, August, 24pp.
- McCarthy, B., **Gawne, B.**, Meredith, S., Roberts, J. and Williams, D. (2004). Effects of weirs in the Mallee Tract of the River Murray. Murray-Darling Freshwater Research Centre, Mildura. Final Report Project R2131 to the Murray-Darling Basin Commission, Canberra. August, 68pp, plus 8 Research Reports.
- Scholz, O. and **Gawne, B.** (2004). Ecology and Management of Ephemeral Deflation Basin Lakes. Report for the Murray-Darling Basin Commission, Project R1011, Report No. 6/2004, June, Mildura, 207pp.
- Scholz, O. and **Gawne, B.** (2004). Aquatic ecosystem responses to flooding of the Menindee Lakes in 2004. Report for the Murray-Darling Basin Commission, Project R4013, December, Mildura, 49pp.
- Scholz, O. and **Gawne, B.** (2004). Ecology and management of Ephemeral Deflation basin Lakes (EDBL). Report for the Murray-Darling Basin Commission, Canberra (Project R1011). Murray-Darling Freshwater Research Centre, Lower Basin Laboratory, Mildura.
- Gigney, H. and **Gawne, B.** (2003). Use of stable isotopes of carbon and nitrogen to interpret food web in three Australian lowland rivers with different flow regimes. Component of Final Report to CRCFE.
- Jones, G., Arthington, A., **Gawne, B.**, Hillman, T., Kingsford, R., Thoms, M., Walker, K. and Young, B. (2003). Ecological Assessment of Environmental Flow Reference Points for the River Murray System. Interim Report prepared by the Scientific Reference Panel for the Murray-Darling Basin Commission, The Living Murray Initiative. 162pp.
- Brown, P., **Gawne, B.** and Scholz, O. (2002). Menindee Lakes Aquatic Fauna: Fish survey results. Technical Report for Menindee Lakes ESD project. Murray-Darling Freshwater Research Centre, Lower Basin Laboratory, Mildura, Marine and Freshwater Resources Institute, and Sinclair Knight Merz.
- Gawne, B.**, Baldwin, D., Beattie, G., Bowen, T., Ellis, I., Frankenberg, J., Lorenz, Z., Merrick, C., Oliver, R., Rees, G., Treadwell, S. and Williams, D. (2002). Ecological Functioning of the Murray River Ecosystem . Final Report for CRC for Freshwater Ecology, June, 92pp.
- Gawne, B.** and Scholz, O. (2002). Menindee Lakes Aquatic Fauna: Integration report. Technical Report for Menindee Lakes ESD project. CRC Freshwater Ecology and Murray-Darling Freshwater Research Centre, Lower Basin Laboratory, Mildura.
- Lloyd, N., Quinn, G.P., Thoms, M.C., Arthington, A.H., **Gawne, B.**, Humphries, P. and Walker, K.F. (2002). Does flow modification cause geomorphical and ecological response in rivers? A literature review from an Australian perspective. CRCFE Technical Report 1/2004, 57pp.
- Meredith, S.N., **Gawne, B.**, Sharpe, C., Whiterod, N., Conallin, A. and Zukowski, S (2002). Dryland Floodplain Ecosystems: influence of flow pattern on fish production. Report for AFFA through NHT Fishrehab program, MDFRC Technical Report 1/2002, Mildura 44pp.
- Scholz, O. and **Gawne, B.** (2002). Menindee Lakes Aquatic Fauna: The effect of rapid drawdowns on productivity and diversity in ephemeral deflation basin lakes. Technical Report for Menindee Lakes ESD

project. CRC Freshwater Ecology and Murray-Darling Freshwater Research Centre, Lower Basin Laboratory, Mildura.

Scholz, O. and **Gawne, B.** (2002). Menindee Lakes: review of long-term monitoring by DLWC (1992-2001). Technical report for Menindee Lakes ESD and DLWC. CRC Freshwater Ecology and Murray-Darling Freshwater Research Centre, Lower Basin Laboratory, Mildura.

Thoms, M., Quinn, G., Butcher, R., Phillips, B., Wilson, G., Brock, M. and **Gawne, B.** (2002). Scoping Study for the Narran Lakes and Lower Balonne Floodplain Management Study. CRC for Freshwater Ecology, Technical Report 3/2002, Canberra, 114pp.

Whiterod, N. and Gawne, B. (2002). Flow related variation in diets of Murray-Darling fish. Report for AFFA through NHT Fishrehab program, MDFRC Technical Report 2/2002, Mildura, 36pp.

Presentations

Bickford, G., Nicholls, D. and **Gawne, B.** (2003). Effects of a drought on productivity along the Murray River, a highly regulated Australian lowland river. Ninth International Conference on River Research and Applications – the nature of variability in river systems. Albury, NSW, 6-11 July.

Bowen, T., Zukowski, S., **Gawne, B.**, Petrie, R. and Perryman, S. (2006). Community engagement in monitoring environmental condition. 45th Annual Congress of the Australian Society for Limnology, Albury, NSW, 25 to 29 September.

Gawne, B. (2002). The Effects of Drying on Wetlands: A Disturbance or an Opportunity? Joint seminar series MDFRC and Johnstone Centre, Charles Sturt University, 6 November.

Gawne, B. (2003). Is there sufficient scientific evidence to warrant substantial intervention in, and resetting the agenda for, natural resource management in Australia? Symposium Debate focusing on the Murray-Darling Basin and the Great Barrier Reef, part of the **Sixth International River Management Symposium (Urban Rivers – Balancing the expectations)**, 5 September.

Gawne, B. (2003). An Overview of the Murray Flows Assessment Tool. CSIRO Land and Water, Griffith, NSW, 1 October.

Gawne, B. (2003). The science behind The Living Murray initiative.

- * Briefing to the Murray-Darling Basin Commission Community Advisory Committee, Canberra, 21 August
- * Murray Darling Association's National Conference (Corowa), 4 September.
- * Public Meeting (Benalla), 8 September.
- * Murrumbidgee Catchment Management Board (Tumbarumba), 9 September.
- * Murray Flows Assessment Tool (MFAT) meeting (Canberra), 10 September.
- * Public Meetings (Yarrowonga and Cobram), 15 September.

Gawne, B. (2004). The relationship between ecology and hydrology and its influence on catchment management. CSIRO Land and Water, CSIRO Christian Lab Seminar Room, 9 February.

Gawne, B. (2004). Water Quality and Treatment capacity of the MDFRC. Presentation to North East Water and Albury Water managers, North East Water, Wodonga, 7 June.

- Gawne, B.** (2004). The Living Murray. Presentation to the Murray-Darling Basin Commission Community Advisory Committee, Canberra, 10 June.
- Gawne, B.** (2004). The Living Murray: A Healthy Working River?" Twelfth Lecture of the Jonathan Mann Public Lecture Series "The Murray and its People", La Trobe University Albury-Wodonga campus, 21 October.
- Gawne, B.** (2004). What is a healthy river? *Wise Water Ways* Short Course, La Trobe University Beechworth campus, 25 October.
- Gawne, B.** (2004). The role of floods in Australian temperate lowland rivers: Some speculations based on observations of the Murray River. Australian Society for Limnology Early Career Excellence Award Winner, 2003. 43rd Annual Congress of the Australian Society for Limnology, Adelaide, SA, 29 November to 3 December.
- Gawne, B.** (2005). Looking after the Environment. *Sharing the River Murray System – Getting the Balance Right* Symposium, organised by the Australian Institute of Agricultural Science & Technology, Rich River Golf Club Resort, Moama, NSW, 29 April.
- Gawne, B.** (2005). eWater Cooperative Research Centre. Presentation at MDFRC CAC 2/2005 meeting, Albury, 18 August.
- Gawne, B.** (2005). The Living Murray Initiative. Presentation to Corowa Landcare Group, Corowa, 1 September.
- Gawne, B.** (2005). Integrated knowledge for sustainable water allocation in the Darling Basin. Commonwealth Environment Research Facilities Presentation, Canberra, 5 October.
- Gawne, B.** (2005). MDFRC – river health assessment issues – how can MDFRC assist DNR? Presentation to the NSW Department of Natural Resources Science and Information Board, Sydney, NSW, 11 October.
- Gawne, B.** (2005). eWater CRC. Presentation on MDFRC River Health Research Projects in the GBCMA. Benalla, 24 November.
- Gawne, B.** (2006). River Processes. Lecture to Department of Environmental Management and Ecology students, La Trobe University Albury-Wodonga campus, 15 May.
- Gawne, B.** (2006). River Processes/Management. Lecture to Department of Environmental Management and Ecology students, La Trobe University Albury-Wodonga campus, 18 May.
- Gawne, B.** (2006). The need for environmental flows during a drought. Regional Wetland Forum: cross-border wetland networking, Wonga Wetlands, NSW, 9 November.

- Gawne, B.** and Williams, J. (2005). Monitoring data in the Broken River Basin. Presentation on MDFRC River Health Research Projects in the GBCMA. Benalla, 24 November.
- Gawne, B.,** Cook, R., Nielsen, D., Mitchell, A., Hawking, J. and Watson, G. (2005). Ecology of slackwater habitats in an Australian lowland river. 44th Annual Congress of the Australian Society for Limnology, Hobart, TAS, 29 November.
- Gawne, B.,** Williams, D., Nielsen, D., Rees, G., Oliver, R., Bowen, T., Ellis, I. and Whiterod, N. (2006). Variability in organic matter dynamics in south-east Australian lowland rivers. International Conference on Riverine Hydroecology: Advances in Research and Applications, School of Biological and Environmental Sciences, Stirling University, Scotland, 13 to 18 August.
- Gawne, B.,** Nielsen, D., Oliver, R., Rees, G., Hawking, J., Bowen, P., Gigney, H., Whiterod, N., Watson, G., Lorenz, Z. and Williams, D. (2003). Spatial and temporal variability in patterns of productivity in some Australian lowland rivers. Ninth International Conference on River Research and Applications – the nature of variability in river systems. Albury, NSW, 6-11 July.
- Gigney, H., **Gawne, B.** and Hawking, J. (2003). Use of stable isotopes carbon and nitrogen to interpret food webs in three Australian Rivers with different flow regimes. Ninth International Conference on River Research and Applications – the nature of variability in river systems. Albury, NSW, 6-11 July.
- Gigney, H., Petrie, R., **Gawne, B.** and Nielsen, D. (2006). Barmah-Millewa Forest Floodwater in the Murray and Edward Rivers. 45th Annual Congress of the Australian Society for Limnology, Albury, NSW, 25 to 29 September.
- Hawking, J., **Gawne, B.** and Gigney, H. (2004). Quantifying flow-habitat-biota relationships of macroinvertebrates using different functional patches in the Broken River, Victoria. 43rd Annual Congress of the Australian Society for Limnology, Adelaide, SA, 29 November to 3 December.
- Hawking, J., **Gawne, B.,** Cook, R. and Gigney, H. (2005). Successional processes in invertebrate assemblages in lowland river slackwaters. 44th Annual Congress of the Australian Society for Limnology, Hobart, TAS, 29 November.
- Hawking, J., **Gawne, B.,** Gigney, H. and Whiterod, N. (2003). The effects of flow regimes on the structure of macroinvertebrate communities in three lowland rivers of south-eastern Australia. Ninth International Conference on River Research and Applications – the nature of variability in river systems. Albury, NSW, 6-11 July.
- Hawking, J., **Gawne, B.,** Whiterod, N. and Gigney, H. (2003). The effects of flow regimes on the structure of macroinvertebrate communities in three lowland rivers of south-eastern Australia. Joint 42nd Australian Society for Limnology Congress and 36th Congress of the New Zealand Limnological Society, Warrnambool, Victoria, 1–5 December.

- Lloyd, N., Quinn, G.P., Thoms, M.C., Arthington, A.H., **Gawne, B.**, Humphries, P. and Walker, K.F. (2003). Ecological and geomorphological responses of rivers to flow modification for irrigation: an Australian perspective. Ninth International Conference on River Research and Applications – the nature of variability in river systems. Albury, NSW, 6-11 July.
- McCarthy, B., Meredith, S. and **Gawne, B.** (2003). Impacts of weirs in the Murray River, Australia. Ninth International Conference on River Research and Applications – the nature of variability in river systems. Albury, NSW, 6-11 July (poster).
- Meredith, S., **Gawne, B.**, Sharpe, C., Whiterod, N., Conallin, A. and Zukowski, S. (2002). Fish larvae on Lindsay Island. 41st Australian Society for Limnology Inc Congress, Margaret River WA, 1 October.
- Meredith, S., **Gawne, B.**, Sharpe, C., Whiterod, N., Conallin, A., Zukowski, S. and McCasker, N. (2003). Spatial analysis of the Low-Flow Recruitment Hypothesis: implications for the use of environmental flows for the management of native fish. Ninth International Conference on River Research and Applications – the nature of variability in river systems. Albury, NSW, 6-11 July.
- Petrie, R., Gigney, H., **Gawne, B.** and Nielsen, D. (2006). Changes to planktonic microinvertebrate communities in response to environmental watering of a floodplain forest. 45th Annual Congress of the Australian Society for Limnology, Albury, NSW, 25 to 29 September.
- Quinn, G.P., Thoms, M.C., Butcher, R. and **Gawne, B.** (2002). Ecological monitoring frameworks for flow-impacted ecosystems. International Conference on Environmental Flows and Ecohydraulics, Capetown, South Africa, March.
- Vogel, M., **Gawne, B.**, Richardson, A., Nielsen, D. and Gigney, H. (2006). The impact of low-flows on two-spined blackfish in the upper Ovens River catchment. 45th Annual Congress of the Australian Society for Limnology, Albury, NSW, 25 to 29 September.
- Watkins, S., **Gawne, B.** and Quinn, G. (2006). The role of river red gum (*Eucalyptus camaldulensis*) leaf litter in seasonally inundated floodplain wetlands of the River Murray, Australia. International Conference on Riverine Hydroecology: Advances in Research and Applications, School of Biological and Environmental Sciences, Stirling University, Scotland, 13 to 18 August.
- Whiterod, N. and **Gawne, B.** (2002). Flow related variations in diets of Murray-Darling fish species. 41st Australian Society for Limnology Inc Congress, Margaret River WA, 1 October.
- Whiterod, N. and **Gawne, B.** (2003). Flow related variation in diets of small-bodied Murray-Darling fish species. Ninth International Conference on River Research and Applications – the nature of variability in river systems. Albury, NSW, 6-11 Jul